

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 23465/109	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 22619	International filing date (day/month/year) 18/08/2000	(Earliest) Priority Date (day/month/year) 19/08/1999
Applicant UNIVERSITY OF SOUTHERN CALIFORNIA et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☒ furnished subsequently to this Authority in written form.

☒ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1
☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.
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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claim 18 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International Application No

P 00/22619

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/87 C12N15/86 A61K47/48 A61K48/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, BIOSIS, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 96 21036 A (VIAGENE INC) 11 July 1996 (1996-07-11)</p> <p>the whole document, in particular page 5 line 28 to page 6 line 5, page 12 and page 27 line 30 to page 28 line 24</p> <p style="text-align: center;">--- -/--</p>	<p>1-7, 9, 10, 16, 18, 19</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

26 January 2001

Date of mailing of the international search report

06.02.01

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INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FASBENDER A ET AL: "COMPLEXES OF ADENOVIRUS WITH POLYCATIONIC POLYMERS AND CATIONIC LIPIDS INCREASE THE EFFICIENCY OF GENE TRANSFER IN VITRO AND IN VIVO" JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, US, vol. 272, no. 10, 7 March 1997 (1997-03-07), pages 6479-6489, XP002060642 ISSN: 0021-9258 cited in the application the whole document, in particular page 6488 left column	1-3, 7, 18, 19, 21
X	WO 98 44938 A (ANDERSON W FRENCH ; GORDON ERLINDA MARIA (US); HALL FREDERICK L (US) 15 October 1998 (1998-10-15) the whole document, in particular paragraph bridging pages 17 to 18 and figure 1B	1, 2, 4, 8, 9, 18, 19
A	US 4 948 590 A (HAWROT EDWARD ET AL) 14 August 1990 (1990-08-14) the whole document, in particular column 6, lines 23-26 and column 18, lines 1-2	1-3, 8, 18
A	US 5 631 018 A (ZALIPSKY SAMUEL ET AL) 20 May 1997 (1997-05-20) cited in the application the whole document, in particular column 10 lines 20-32	1, 3, 4, 7, 16, 18, 19, 21-23
A	WO 97 40854 A (ANTIVIRALS INC) 6 November 1997 (1997-11-06) the whole text, in particular pages 24-25, 27 and figures 3, 12	1, 3-7, 10, 12, 17, 19-23
A	JANUSZESKI M M ET AL: "Functional analysis of the cytoplasmic tail of Moloney murine leukemia virus envelope protein" JOURNAL OF VIROLOGY, US, THE AMERICAN SOCIETY FOR MICROBIOLOGY, vol. 71, no. 5, May 1997 (1997-05), pages 3613-3619, XP002130560 ISSN: 0022-538X the whole document	5, 6, 10, 11, 13-15
P, X	WO 00 02909 A (ANDERSON W FRENCH ; ROZENBERG YANINA (US); UNIV SOUTHERN CALIFORNIA) 20 January 2000 (2000-01-20) the whole document, in particular pages 19-27	1, 2, 5, 10, 11, 13-15, 18

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9621036	A	11-07-1996	AU	4690596 A	24-07-1996
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			EP	0973538 A	26-01-2000
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			AT	162710 T	15-02-1998
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			CA	2156901 A	15-09-1994
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			DE	69408304 T	20-08-1998
			DK	688207 T	06-04-1998
			EP	0688207 A	27-12-1995
			ES	2114186 T	16-05-1998
			JP	3066437 B	17-07-2000
			JP	8507523 T	13-08-1996
			WO	9420073 A	15-09-1994
WO 9740854	A	06-11-1997	AU	2929897 A	19-11-1997
			EP	0966303 A	29-12-1999
			JP	2000509394 T	25-07-2000
			US	6030941 A	29-02-2000
WO 0002909	A	20-01-2000	AU	4386999 A	01-02-2000